

## CLAIMS

1. A filtering device which filters an original image, comprising:

5 a reducing processor that reduces the number of pixels forming said original image so as to generate a low-resolution image;

a filtering processor that filters pixel data of pixels forming said low-resolution image so as to transform said  
10 low-resolution image into a filtered image; and

an image restoring processor that restores the number of pixels forming said filtered image to the number of pixels forming said original image so as to generate a restored image.

15 2. A filtering device according to claim 1, wherein said filtering processor filters with a low-pass filter.

3. A filtering device according to claim 1, wherein said image restoring processor restores the number of pixels forming said filtered image to exactly the same number of  
20 pixels forming said original image.

4. A filtering device according to claim 1, wherein said reducing processor divides said original image into a plurality of areas which have a plurality of pixels and then chooses one pixel from said plurality of pixels of each of  
25 said areas, the chosen pixel being the pixel used to form said

low-resolution image, so as to generate said low-resolution image.

5        5.        A filtering device according to claim 1, wherein said reducing processor divides said original image into a plurality of areas which have a plurality of pixels, the average pixel data of each of said areas being data of each pixel forming said low-resolution image, so as to generate said low-resolution image.

10       6.       A filtering device according to claim 1, wherein said image restoring processor interpolates pixel data forming said filtered image so as to generate pixel data forming said restored image.

7.       A filtering device according to claim 1, wherein pixel data forming said restored image is further filtered.

15       8.       A filtering device according to claim 1, wherein the number of pixels forming said low-resolution image can be selected from a stepwise series of predetermined numbers of pixels.

20       9.       A filtering device which filters an original image, comprising:

          a reducing processor that reduces the number of pixels forming said original image so as to generate a low-resolution image;

25        a filtering processor that filters pixel data of pixels forming said low-resolution image so as to transform said

low-resolution image into a filtered image; and

an image restoring processor that increases the number of pixels forming said filtered image so as to generate a restored image.

5 10. A filtering process for filtering an original image, comprising the steps of:

decreasing the number of pixels forming said original image so as to generate a low-resolution image;

10 filtering pixel data of pixels forming said low-resolution image so as to transform said low-resolution image into a filtered image; and

restoring the number of pixels forming said filtered image to the number of pixels forming said original image to generate a restored image.